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EXAMINER

SIDDIQI, MOHAMMAD A

ART UNIT PAPER NUMBER

2154

DATE MAILED: 11/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/777,261

Applicant(s)

ANDERSON ET AL.

Examiner

Mohammad A Siddiqi

Art Unit

2154

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

1. Claims 1-23 are presented for examination.
2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 07/21/2004 has been entered.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kukura et al. (6633923) (hereinafter Kukura) in view of Chandranmenon et al. (Reconsidering Fragmentation and Reassembly, Chandranmenon and Varghese published on June 1998, Proceedings of the seventeenth annual ACM symposium on Principles of distributed computing) (hereinafter Chandranmenon).

5. As per claims 1, Kukura teaches a method of sending a message from a first common Object Request Broker to a second common Object Request Broker (col 2, lines 29-31) operating in a distributed object oriented environment (col 1, lines 15-27), said method comprising:

determining whether the message which is to be sent from a first common Object Request Broker to a second common Object Request Broker should be fragmented into two or more sub-messages (col 31, lines 50-57 and col 33, lines 1-20);

initiating construction of a sub-message (fig 3, col 33, lines 17-20) which is to be sent from a first common Object Request Broker to a second common Object Request Broker (col 31, lines 55-59) when said determining determines that said message is to be sent in two or more sub-messages (col 33, lines 17-31);

sending a constructed sub-message (fig 3, col 38, lines 13-20), which has been constructed based on the offset-variable, from the first common Object Request Broker to a second common Object Request Broker (col 36, lines 1-5).

Kukura does not explicitly disclose initializing an offset-variable for said message to zero when said determining determines that said message is to be fragmented into two or more sub-messages; determining whether there is a need to know the position of a byte of the sub-message with respect to the message; reading the offset-variable for said message when said determining determines that there is a need to know the position of a byte of the sub-message with respect to the message; completing construction of the sub-message based on the offset-variable for said message; updating the offset-variable for said message. However, Chandranmenon discloses initializing an offset-variable for said message to zero when said determining determines that said message is to be fragmented into two or more sub-messages (page 21, column 2); determining whether there is a need to know the position of a byte of the sub-message with respect to the message (page 21, column 21 and page 22 column 2); reading the offset-variable for said message when said determining determines that there is a need to know the position of a byte of the sub-message with respect to the message (fig 8, page 28);

completing construction of the sub-message based on the offset-variable for said message (fig 8, page 21, col 2 and page 22, col 2); updating the offset-variable for said message are well known in the art (fig 8). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Kukura with Chandranmenon. The motivation would have been to have a orb with messages fragmentation capability into sub-messages using GIOP based standard inter-orb protocol to improve throughput in a distributed computing environment.

6. As per claim 9, the claim is rejected for the same reasons as claim 1, above.

7. As per claim 13, the claim is rejected for the same reasons as claim 1, above.

8. As per claim 17, the claim is rejected for same reasons as claim 1, above.

9. As per claims 22, The claim is rejected for the same reasons as claim 1, above.

10. As per claims 2 and 18, claims are rejected for same reasons as claim 1, above. In addition, Kukura teaches a sub-message has a header that includes one or more bytes (fig 3, col 33, lines 17-25), and wherein said updating of the offset-variable comprises:

subtracting the length of the header (buffer management, col 33, lines 17-26) of the sub-message from the length of another sub-message that was constructed (col 33, lines 17-26) immediately prior to construction of the sub-message (col 37, lines 23-31, addition and subtraction must be done to process the message based on the header and message size).

11. As per claims 3 and 19, Kukura teaches updating further comprises: updating the offset-variable by adding the result of said subtracting (buffer management, col 33, lines 17-26) to the value of the offset-variable (col 38, lines 13-20);

12. As per claims 4, 10 and 14, claims are rejected for same reasons as claim 1, above. In Addition Kukura teaches the message is fragmented into N sub-messages (buffer management, col 33, lines 17-26), sub-message 0 to sub-message N, where N is a positive integer, and wherein the first sub-message has a header with the same number of bytes as the header of the message (fig 3, col 33, lines 17-25) and col 7, line 20, Iterative).

13. As per claim 5, Kukura teaches the updating is performed based on the summation ($L_{sub.i-1} - H_{sub.i}$) taken from $i=1$ to $i=N-1$, where $L_{sub.i}$ is the length of the sub-message i and $H_{sub.1}$ is the length header of the sub-message 1 (fig 3, col 33, lines 17-26 and col 57, lines 3 and col 7, lines 20).

14. As per claims 6, 11, 15 and 20, Kukura teaches at least two of the headers of the sub-messages 1 to N can be of different lengths (beginblock and EndBlock allows to process fragments, col 34, lines 1-21, intermixed means capability of sending variable length data).

15. As per claim 7, Kukura teaches the method further comprises:
obtaining a remote object (col 2, lines 30-38); and

Invoking a method associated with the object (col 2, lines 45-49).

16. As per claim 8, Kukura teaches obtaining of the remote object (col 2, lines 30-38) and said invoking of a method (col 2, lines 45-49) associated with the object is performed by a client operating in the distributed object oriented environment (col 1, lines 15-27), and

wherein the first Object Request Broker creates a request and marshals in appropriate parameters (col 35, lines 65-67 and col 36, lines 1-5).

17. As per claims 12, 16, and 21, Kukura teaches at least two of the sub-messages have data portions that are of different sizes (col 38, lines 9-14, buffers are allocated based on the method call).

18. As per claim 23, Kukura discloses said method further comprises: updating the fragment offset-variable by subtracting the length of the header of the sub-message from the length of another sub-message that was constructed immediately prior to construction of the sub-message and adding the result of the subtraction to the value of the offset-variable (col 28, lines 36-49 and col 34, lines 4-29).

Response to Arguments

19. Applicant's arguments with respect to claims 1-23 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

U.S. Patent 6,629,128 teaches Inter-orb communication.

U.S. Patent 6,003,083 teaches Workload management.

General Inter_ORB Protocol, September 23, 1998, CORBA Draft 2.3

A flexible, Optimizing Compiler, Eric Eide, 1997 ACM.

The Design and Performance of a Scalable ORB Architecture for CORBA
Asynchronous Messaging, Arulanthu, April 2000, IFIP/ACM
International Conference on Distributed systems platforms.

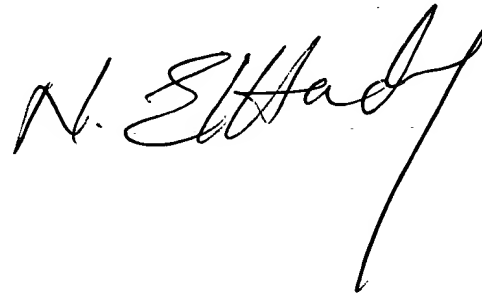
Alignment and offsets in the presence of fragmentation, Jan 1998,
OMG, issue904.

Any inquiry concerning this communication or earlier communications
from the examiner should be directed to Mohammad A Siddiqi whose
telephone number is (571) 272-3976. The examiner can normally be
reached on Monday -Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the
examiner's supervisor, John A Follansbee can be reached on (571) 272-
3964. The fax phone number for the organization where this application or
proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MAS

A handwritten signature in black ink, appearing to read "N. El Hadj", with a long, sweeping vertical stroke extending downwards from the end of the signature.